SECTION 7 Pain and palliative care

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ESSENTIALS Palliative care shifts the focus of care from managing the underlying pathophysiological processes to one that looks at the individual and the impact of life-threatening illness on them and those important to them. It aims to prevent and relieve suffering by means of early identification, assessment, and treatment of pain and other prob- lems, physical, psychosocial, and spiritual. It focuses on interven- tions which might improve an individual's quality of life rather than alter the underlying disease process, and routinely extends support to those important to the individual both during that individual's lifetime and into bereavement. Challenges to the provision of effective palliative care include prognostic uncertainty, the necessity for engaging in difficult con- versations, and the need to deal with a variety of ethical issues. However, palliative care exemplifies all the principles that underpin good medical care, and is everybody's business because we are all on the same journey and we all matter because of who we are, not what we do. What is palliative care? Palliative care is relevant to almost every aspect of clinical prac- tice, dealing as it does with the end stages of all disease processes. Palliative care shifts the focus of care from managing the underlying pathophysiological processes, with emphasis on controlling actual or potential damage, to one that looks at the individual and the impact of their illnesses on them and those important to them, as illustrated in the case study next. According to the World Health Organization (WHO) (2011), palliative care is defined as: . . . an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial, and spiritual. Palliative care: • provides relief from pain and other distressing symptoms; • affirms life and regards dying as a normal process; • intends neither to hasten nor postpone death; • integrates the psychological and spiritual aspects of patient care; • offers a support system to help patients live as actively as possible until death; • offers a support system to help the family cope during the patient's illness and in their own bereavement; • uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated; • will enhance quality of life, and may also positively influence the course of an illness; • is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemo- therapy or radiation therapy, and includes those investigations needed to better

understand and manage distressing clinical complications. Reprinted from WHO Definition of Palliative Care
(http://www.who.int/cancer/palliative/definition/en/),
© WHO 2017. The art of caring for those approaching the end of their lives has a long history, much of which originates from caring in- stitutions established by different world religions over the cen- turies. Building on that experience, most accept that the ‘modern hospice movement’ was founded by Dame Cecily Saunders in the United Kingdom in the mid-20th century. While there is considerable qualitative evidence that a caring approach embracing psychological, psychosocial, and spiritual support is highly effective and valued by patients and families, consider- able gaps remain in our understanding of the physiology of the end stages of disease processes and in the evidence base for the interventions currently on offer. This, combined with the often complex interactions between the physical, emotional, and psychological elements of each patient’s lived experience, makes the palliative care approach both challenging and fascinating (Box 7.1.1). What is a palliative care approach? Individuals with progressive life-limiting illnesses face similar challenges, whether their illness journey is one of slow decline 7.1 Introduction to palliative care Susan Salt

 over years, or an apparent precipitous deterioration in health over a few weeks. For all there will be a progressive loss of function and a variable burden of symptoms combined with emotional, psy- chological, and spiritual distress as illustrated in our case study. A palliative care approach acknowledges the individual’s lived experience of the situation they are in and aims to work in part- nership with the individual to find ways to manage what is im- portant for them. For P in our case study, being able to spend time at home with family was important as was writing letters for his grandchildren. Palliative care routinely extends support to those important to the individual both during that individual’s lifetime and into be- reavement. Hearing and acknowledging the thoughts and feelings of P’s wife were an important aspect of the case. Palliative care focuses on interventions which might improve an individual’s quality of life rather than alter the underlying disease process. As such it includes provision of: • accurate holistic assessment of patients including their psycho- logical, social, spiritual, and practical needs • accurate and realistic information for patients and carers about their condition and the choices they have around next steps, with ‘signposting’ to relevant support services where available • advance care planning, including decisions about “ceilings” of care with coordination of care in and out of hours and across dif- ferent care providers • impeccable symptom control with regular inbuilt review of symp- toms and their impact • regular, open, honest, and sensitive communication with patients, carers, and professional staff about all aspects of their care • referral for specialist palliative care when necessary National Institute for Clinical Excellence (2004) Palliative care does not fit into a simple linear pathway of care; ra- ther it oscillates depending on the lived experience of the patient and those close to them (Fig. 7.1.1). There are several challenges for those seeking to deliver good quality care in the last stages of any disease process. These include: • prognostic uncertainty • inadequate training around having difficult conversations • inadequate training of professionals around palliative care principles • lack of access to effective licensed medication for symptom control • care systems which do not or cannot prioritize a palliative care approach Palliative care assessment The timing of a palliative care assessment can be problematic. Modern understanding of the role of palliative care is reflected in the ‘model c’ outlined in Fig. 7.1.2, with the idea that pallia- tive care steps in at key trigger points, such as worsening symptom burden, and then withdraws, leaving the individual under the care of their current health and social care

team until the next trigger occurs. Assessment involves impeccable attention to detail with targeted examinations and investigations. On the whole, interven- tions based on an understanding of the likely cause of a problem tend to work quickly and effectively. This is important as time can be short and in many instances there might only be ‘one chance to get it right’. Given the scope of palliative care, a distinctive approach to clinical evaluation is required. Although a comprehensive pal- liative assessment includes all the standard elements of a medical history and relevant aspects of the physical examination, it also extends to exploring psychological, spiritual, and social domains. Box 7.1.1 What is palliative care?—a case study P was a 72-year-old man with 11-year history of chronic obstructive pulmonary disease related to smoking and his previous employment as a fireman. In the last six months he had become increasingly limited by breathlessness, making him chair-bound despite continuous long- term oxygen therapy via a concentrator. He felt no benefit from nebu- lized bronchodilators or his other inhaler, but continued to use them as prescribed. Despite multiple courses of oral antibiotics combined with bursts of oral steroids, he had a persistent productive cough with purulent sputum. He was referred to the palliative care team for management of his breathlessness and low mood after his third admission to hospital in four months. When referred he was breathless at rest, but able to talk in short sentences. He was just able to transfer from bed to chair with the help of his wife. He had pain in his chest from his persistent coughing as well as in his lower back from a long-standing injury sustained at work. He and his wife were exhausted by his poor sleep pattern. His wife was very concerned about his poor oral intake and low mood, feeling that P had started to ‘give up’. At his first palliative care consultation, when invited to talk about his condition and what he understood was happening, P talked openly about the fact that his condition was deteriorating and he was not going to get better. He had spent a considerable amount of time mulling over his situation and said that he wanted to have as much time as he could with his family, particularly his grandchildren, but wanted to feel less breathless. He felt trapped in the house and guilty that he was being a burden to his wife because he was so dependent on her. He did not want to go to hospital unless absolutely necessary and was clear he did not want noninvasive ventilation, having had a bad experience with this in the past. P was taught relaxation techniques and breathing exercises and started on low-dose morphine to ease his subjective sensation of breathlessness. He attended a local hospice one day a week in an at- tempt to build up his confidence and emotional resilience. Within six weeks his subjective feeling of breathlessness had improved and he was able to walk short distances with a walking frame. He started to sleep better and eat a little more. His mood lifted as he was able to get out of the house for short trips using a wheelchair. Two months later his breathlessness had worsened, with pain in his back and legs and persistent nausea. Despite evidence of acute on chronic chest infection, after discussion with his wife and GP, he de- cided against hospital admission. P felt he was approaching the end of his life and did not want to pursue any potential life-prolonging inter- ventions, including intravenous medication. After a further review both P and his wife decided they would prefer an admission to the local hospice for symptom control and possibly care in the last stage of his life. In the hospice he was found to be hyp- oxic. His oxygen was cautiously increased. He required a continuous subcutaneous infusion of painkillers and antiemetics to control his pain and persistent nausea. He died 10 days after admission with his wife and son by his bedside, having spent quality time with family and friends. With the support of staff in the hospice he had planned his own funeral and left letters for each of his grandchildren.

7.1 Introduction to palliative care 625 EVERYDAY LIFE EXPERIENCE DEATH & BEREAVEMENT Health/Social care view Individual view Oscillation Diagnosis Ceilings of treatment Advance care planning Care coordination Symptom control Managing reversible causes of deterioration Making sense of experience Coping with multiple losses Navigating care systems Managing impact on activities of daily living Managing emotions Coping with deterioration Fig. 7.1.1 Model of the dynamic nature of palliative care for individual patients. (a) The traditional model of late involvement of palliative services Condition-specific treatment Diagnosis Palliative care Death Condition-specific treatment Diagnosis Palliative care Death Condition-specific treatment Diagnosis Palliative care Trigger points Trigger points Source: NCPC, NEoLCP.96 Death (b) The model of early and increasing involvement of palliative services (c) The model of dynamic involvement of palliative services based on trigger points Fig. 7.1.2 Differing models of involvement of palliative care. Adapted with permission from National Council for Palliative Care.

626 Section 7 Pain and palliative care Being aware of the spiritual aspect of care is important for all medical staff, not just designated spiritual care providers such as chaplains. It is an aspect of care that can profoundly influence the outcome of difficult conversations. Spiritual assessment explores what gives an individual a sense of meaning and what helps them make sense of their world. For some this will include aspects of formal organized religion, but for most it will include themes such as family, nature, or the arts. For P, his family, in particular his grandchildren, were a core part of what gave his life meaning. Ensuring that he was able to leave a legacy for them in terms of individual letters was as important to him as ensuring his back pain was adequately managed. Who is involved in providing palliative care? All medical specialties will be involved in the care of individuals with progressive life-limiting illnesses. This requires an under- standing of, and ability to deliver, a palliative care approach, which is important for all healthcare professionals regardless of their specialism. At its most effective, palliative care combines the contribu- tion of informal care networks, including family, friends, and members of a local community with a well trained professional workforce, delivering care wherever the patient is and in a way they choose, as demonstrated by the case study at the beginning of this chapter. Providing good-quality palliative care is a challenge for resource- rich and resource-poor healthcare systems alike. The flexible and individualized approach palliative care requires can be hard to coordinate, requiring as it does excellent cross-boundary working between multiple agencies in a locality and systems that enable ef- fective and timely transfer of care. Specialist palliative care is a specific approach to care provided by multidisciplinary teams who have undergone additional training on symptom control and other forms of psychosocial and spiritual support. Such teams often work with a patient’s cur- rent care teams to support them to deliver the care needed when needs are complex and complicated, rather than taking over an individual’s care. Specialist palliative care provision varies widely and might not be available in all care settings. Where there is a specialist team it might include consultants in palliative medicine, clinical nurse specialists, physical therapists, social workers, chaplains, and ex- perts in psychological care. Specialist palliative care services might include inpatient units (hospices); hospital-based services including hospital support and outpatients; home care services; day care services; and bereavement support. Challenges to providing effective palliative care Prognostic uncertainty Most doctors overestimate the survival of terminally ill patients with a failure to recognize condition-specific triggers which signal when a palliative care approach would be appropriate. This, along with a lack of good clinical evidence, can lead to prognostic uncertainty making it hard to engage in the ‘difficult’ conversa- tions that might be required. Some clinicians avoid the issue of end-of-life care altogether, using phrases such as, ‘we

have to wait and see’ or ‘no one can tell’ if asked about prognosis. Others might deal with the lack of cer- tainty by carrying out more and more tests in the hope of being able to better predict the future. Both approaches strongly influ- ence how a patient and those important to them understand what is happening, and how they engage in honest and open conver- sations about their care. Both can cause inordinate distress and misunderstanding. Adopting a palliative care approach does not preclude more ac- tive management where appropriate, using the concept of planning for the worst while hoping for the best. Clinical decisions might be finely balanced and need to consider the potential burden as well as benefit of any intervention offered. Doctors need to balance their clinical knowledge of the natural course of a disease process with the need to look for and manage reversible causes of a change in condition. Managing diagnostic uncertainty remains a significant chal- lenge. Several prognostic measures have been proposed to enable more accurate determination of prognosis, but none has been es- tablished to be any more accurate than the ‘surprise question’, which simply asks, ‘would you be surprised if this individual died in the next twelve months?’ If you would not be surprised, then it is likely the individual is in the last year of their life. Equally important is the view of the patient and those important to them around their prognosis. As in our case study, P recog- nized he was not getting better and had already thought about what choices he wanted to make. This is not unusual, but such thoughts might not be voiced until the individual is invited to share them in a way that makes them feel confident that they will be heard and respected. Enabling a patient to make complex judgements about the po- tential benefit(s) of a course of action is at the heart of supporting them to make informed choices about their care. However, an individual’s view of the balance of benefits and burdens will need to be regularly reviewed as the situation changes. Having difficult conversations Excellent communication is essential in a palliative care approach, dealing as it does with difficult and emotionally charged issues such as not offering treatment, withdrawing established treat- ments, establishing ceilings of care including the appropriateness of attempting cardiopulmonary resuscitation, and the likelihood of dying soon. Among the recognized barriers to enabling effective communication in a palliative care setting are: • Emphasis on diagnosis and treatment of physical dysfunction at the expense of psychological, social, and emotional aspects of the experience of the patient and those close to them. • Professionals’ assumptions about what is most distressing to patients. • Giving advice and reassurance before the patient has had an op- portunity to express their main concerns. • Dismissing or minimizing the impact of distress. • Avoiding any acknowledgement or exploration of feelings.

7.1 Introduction to palliative care 627 Communication within palliative care aims to elicit and value the patient’s story as much as give information or offer solutions. At its best, this patient-centred approach to care leads to negotiation and shared decision-making with patients based on mutual trust. This enables patients to: • Discuss and understand their diagnosis and its implications. • Make informed decisions and express preferences about goals of care and preferred place of care and death. • Address ‘unfinished business’ including practical and legal issues and to receive appropriate psychological and spiritual support. • Access information on eligibility for additional financial support (where available). • Increase the likelihood of receiving appropriate end-of-life care in the place of their choice. Capacity to make decisions Patients with progressive life-limiting illnesses have to make com- plex and profound decisions about their care. To have the capacity to be able to make a decision, a person should be able to: • Understand the decision to be made and the information pro- vided about the decision including the consequences of making a decision. • Retain the information given for long enough to make the de- cision. If information can only be

retained for short periods of time, it should not automatically be assumed that the person lacks capacity. Notebooks, for example, could be used to record information which may help a person to retain it. • Be able to weigh up the information given and the pros and cons of making the decision. • Communicate their decision to those around them. A person must be assumed to have capacity (to consent to or refuse treatments, or to make other care decisions) unless it is established that they lack capacity to make the decision in ques- tion. A person also has the right to make 'unwise decisions'. The responsibility for assessing and judging capacity lies with what- ever professional is responsible for the decision-making process with the patient at the time. Some patients with an advanced illness such as heart failure, as well as more obvious conditions such as dementia, may have a degree of cognitive impairment which might affect their ability to understand and retain information. It remains essential that, where possible, they are involved in decision-making as much as they are able and as much as they want to be, while acting in their best interests. In these circumstances decisions must be based only on the patient's best interests, not those of their family. The ability to make decisions can vary over time and with the complexity of the decision to be made. In many instances, deci- sions might need to be made over several meetings to allow for patients' fatigue and frailty, as well as the emotional context. Engaging in complex conversations about future care when a pa- tient is relatively well might be of benefit for patients and is part of the concept of advance care planning. In some countries patients can record, in advance of loss of cap- acity, their wishes, feelings, beliefs, and values to assist others to make best interests judgements if they later lose capacity (sometimes known as advance care plan or preferred priorities of care document). Such documents need to be regularly reviewed and communicated to all those involved in the patient's care across all care settings both in and out of hours, being updated as and when needed. Advance care plans commonly cover issues such as ceilings of care or treatment goals that are acceptable to the patient, as in our case study, preferred location of care, and the individuals they wish to be involved. In most cases, advance care plans are a statement of preferences and are not legally binding, but if not followed an indi- vidual doctor must be able to justify why they chose not to follow the preferences expressed in such a plan. In addition it might be possible to appoint an advocate to speak on behalf of an individual if and when they lose capacity. Anticipatory care can also involve prescribing symptom control medication 'just in case' so they are available and authorized to be administered when needed, avoiding undue delay in response to developing symptoms such as pain, nausea and vomiting, and ter- minal restlessness. It is essential that if this form of care takes place, clear guidance and procedures are in place to ensure the drugs pre- scribed 'just in case' are prescribed at the correct dose, and are used effectively and safely, only when required. Beyond marketing authorization (previously called a product licence) Many of the indications and routes of administration for drugs routinely used in palliative care are used outside the marketing au- thorization (MA) issued by the Medicines and Healthcare Products Regulatory Agency (MHRA) in the United Kingdom. This is usu- ally because the original licence was for a different indication or for a different route of administration. For example, few medications are licensed for subcutaneous use but there is extensive experience of this route in palliative care. It is important to be aware that the responsibility for the conse- quences of prescribing a medicine beyond or without marketing au- thorization lies with the prescriber who must be fully informed, and • balances both the potential good and the potential harm of using a medication beyond authorization; • provides sufficient information to patients about the expected benefits and potential risks of using a medicine beyond or without MA; • ensures the patient is aware that the Product Information Leaflet (PIL) prepared by the manufacturer will only contain informa- tion about licensed indications. Ethics and palliative

medicine There is a variety of ethical issues associated with palliative and end-of-life care, which often attract considerable public and media attention and can be a source of considerable complexity for indi- vidual practitioners. A detailed examination of these is beyond the scope of this chapter. The four bioethical tenets of respect for autonomy, beneficence, nonmaleficence, and justice might not adequately address an

628 Section 7 Pain and palliative care individual’s personal preferences. This can lead to potential areas of conflict including ‘the right to die’ or the pursuit of ‘treatment at any cost’. Making ethical judgements is further compounded by the paucity of evidence around end-of-life care. When there are di- lemmas, seeking a breadth of opinion from across the multidiscip- linary caring team, additional specialist advice as well as the views of the individual and their family before a treatment decision is made is essential. Conclusion Palliative care exemplifies all the principles that underpin good medical care, based as it is on the centrality of the patient and those important to them, attention to detail, relief of suffering in all its guises and excellent communication skills. It is everybody’s busi- ness because we are all on the same journey and we all matter be- cause of who we are not what we do.

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ESSENTIALS Pain occurs in more than 50% of patients with advanced disease, interferes with daily functioning and quality of life, and is often undertreated. Patients can find it difficult to articulate the character of their pains, but it is important to determine whether it is somatic, neuropathic, or visceral since this has important implications for management. For most patients with cancer pain, a three-step approach com- bining simple or opioid analgesia (depending on severity) along with an adjuvant analgesic (depending on cause) will result in good pain relief, but the challenge is to achieve good pain relief without un- acceptable adverse effects. Pathophysiology and aetiology of pain in advanced disease Pain occurs in more than 50% of patients with advanced disease, and although the ‘analgesic ladder’ approach to treatment promul- gated by the World Health Organization (WHO) is both accepted as the mainstay therapy and widely disseminated, pain is undertreated globally. Poorly controlled pain interferes with daily functioning and quality of life. Pain has both multiple physical and psychological effects and the two aspects are often interlinked. Impact on physical activity together with its negative effects on sleep and relationships with others, forms a toxic mix which leads to general distress. Review data show a prevalence of pain in cancer patients of 35– 96%, in heart disease 41–77%, AIDS 63–80%, chronic obstructive pulmonary disease (COPD) 34–77%, and renal disease 47–50%. The studies were not clear if the figures relate to purely the ad- vanced disease stated, or if there were painful comorbidities. In chronic cancer pain, the data generally agree that somatic pains are more common (71%) than either neuropathic (39%) or visceral (34%) pains. We often think of chronic cancer pain as chronic pain with an extra neurobiological layer of complexity due to factors both produced by the tumour and in response to tumour presence. Patients with neuropathic pain have been shown to have greater pain intensity, a worse quality of life, and a greater negative impact on their daily living than patients with nociceptive pain. Similarly, those with neuropathic cancer pain have been shown to have a worse quality of life, poorer performance status, and a need for both higher opioid doses and a longer time to achieve pain control than those with nociceptive pain. The most common challenging pain overall is cancer-induced bone pain (CIBP). CIBP has three components: a background pain, spontaneous pain at rest, and pain associated with movement. The background component can usually be controlled, however, the spontaneous and movement- related components are challenging. Undertreatment of pain has many influencing factors. Discrepancies between patient, carer, and physician rating of pain severity is one factor. Fears around opioid use are also still prevalent on both the sides of professionals and patients. Inappropriate judgements might be made about the appearance of the patient which influence decisions about pain, these include: too mobile, too well, or too early on in disease pro- cess. Similarly, there can be inappropriate judgements made about pain management in advanced disease with poor judgements as- suming that all pains are due to advancing cancer and a lack of adequate assessment and management of reversible causes. A history and clinical examination are vital for pain assessment, and radiological

and laboratory tests may be indicated. Inadequate pain control is most often due to a poor history and examination. Establishing the effect of pain on the person’s quality of life and activities of daily living, recording previous effects of analgesic treatments, and exploring the patient’s goals and expectations are crucial in being able to treat effectively all aspects of pain’s impact on the person. The acronym SOCRATES is useful in prompting systematic as- sessment of pain characteristics: Site, Onset, Character, Radiation, Associated factors, Timing, Exacerbating/relieving factors, and Severity. As previously mentioned, patients often report more than one pain and it is important to ascertain a pain history for each pain a patient reports, because its cause and therefore treatment might vary. Character Patients can find it difficult to articulate the character of their pains. However, it is important to elicit descriptors as a step in 7.2 Pain management Marie Fallon

630 Section 7 Pain and palliative care diagnosing the underlying pathophysiology. If patients are strug- gling to describe a pain, direct questioning about presence or ab- sence of particular characteristics can be helpful for the patient and assessor. Nociceptive pain is divided into somatic pain, which arises from injury to the soft tissues and bone, and visceral pain, which arises from injury to internal organs. Somatic pain is usu- ally well localized and described as aching, sharp, or throbbing. However, visceral pain due to obstruction of a hollow viscus is poorly localized and can be described as gnawing, a pressure, or deep pain. Visceral pain is commonly referred, and follows classic patterns such as diaphragmatic irritation resulting in classic shoulder tip pain (Table 7.2.1). Patients often find visceral pain harder to describe than somatic pain. Neuropathic pain is often described as numb or burning with sharp, shooting pains either at rest or on movement. Itch, tight- ness, hot or cold sensations, creeping under the skin (formication) are all described in neuropathic pain. Patients might describe spon- taneous pains in the absence of any stimuli or evoked pains such as allodynia (painful response to a nonpainful stimulus), hyperalgesia (increased painful response to a painful stimulus), and hyperpathia (delayed and prolonged response to painful stimulus). It is not al- ways straightforward to distinguish between neuropathic and nociceptive pain on the basis of pain descriptors alone. Clinical examination Clinical examination is essential to ensure accurate diagnosis of the pathophysiology of pain. It not only aids accurate diagnosis but also allows for assessment of comorbidities and the patient’s overall physical state. This information is essential when consid- ering management strategies. Approach to cancer pain assessment Assessment is based on careful listening, observing, and encouraging open communication, along with a knowledge of common pain syndromes and patterns of presentation. The key information we seek is usually more accurate if we allow the patient to tell their story. A good consultation will enable not only the pain syndrome(s), along with probable underlying pathophysiology to be formulated, but also a good understanding of the impact of the pain on physical function and importantly on emotional func- tioning. These can be complex areas of assessment as there can be important interdependent relationships which may need very indi- vidual and specific management. Neuropathic pain Neuropathic pain in general is not a single condition, but repre- sents a syndrome, which can be thought of as a collection of spe- cific symptoms and signs with multiple underlying aetiologies. The aetiology of pain in cancer patients is complex and is often a mix of inflammatory and neuropathic mechanisms that evolve over time as the tumour progresses. The picture is further compli- cated because neuropathic pain symptoms and signs frequently exist as a spectrum and, therefore, the clinical question is not ‘Does my patient have neuropathic or nociceptive pain?’ but ra- ther, ‘Is this pain predominantly neuropathic or nociceptive in origin?’ Nevertheless, neuropathic pain in cancer patients is con- ventionally

categorized as disease-related, treatment-related, or comorbid. Cancer-induced bone pain (CIBP) Bones are the third most common site of metastatic disease, after liver and lung, with c.75% of these patients suffering from related pain. CIBP remains one of the major clinical challenges in pallia- tive care, with several possible reasons for this. Bone pain can have a significant impact on physical, psychological, and social func- tioning (and therefore overall quality of life). CIBP can be difficult to manage and treatment may require the use of multiple types of interventions. The mechanisms of CIBP are complex and have unique characteristics that are different from neuropathic and in- flammatory pain—this has clear implications for managing CIBP effectively. Additionally, the different components of CIBP (spon- taneous pain, incident, or movement-related pain and background pain), which might have different mechanisms and be more or less important in any individual; all need to be addressed to improve the quality of life for the patient. The current gold standard treatment for CIBP is palliative radiotherapy, although only 55% of patients will achieve adequate analgesia from palliative radiotherapy, and this can take up to six weeks to work. General approach to cancer pain management For most patients with cancer pain, a three-step approach com- bining simple or opioid analgesia, depending on the severity of pain, along with an adjuvant analgesic, depending on the cause of the pain, will result in good pain relief. The challenge, however, is to achieve good pain relief without unacceptable adverse effects. The solution usually lies in very careful assessment, appropriate Table 7.2.1 Common patterns of pain referral Pain mechanism Site of lesion (examples) Referral site Visceral Diaphragmatic irritation Shoulder Urothelial tract Inguinal region and genitalia Somatic C7–T1 vertebrae Interscapular L1–L2 Sacroiliac joint and hip Hip joint Knee Pharynx Ipsilateral ear Neuropathic Nerve or plexus Anywhere in the distribution of a peripheral nerve Nerve root Anywhere in the corresponding dermatome Central nervous system Anywhere in the region of the body innervated by the damaged structure

7.2 Pain management 631 choice of analgesic, and adjuvant analgesic for the individual pa- tient, along with anticipation and avoidance of any unwanted ef- fects (Table 7.2.2). There are two main areas to think about:

1. Common opioid-related side effects: dry mouth, constipation, nausea/vomiting, and drowsiness. The latter two should resolve, but the first two are chronic.
2. The addition of adjuvant analgesics can potentiate the opioid- related side effects.
   A reduction in opioid dose should be con- sidered as soon as pain is acceptable, if side effects worsen. Step 1: nonopioid drugs Nonopioids drugs can be used at any stage of the WHO analgesic ladder (Fig. 7.2.1). Their use might result in synergistic effects when used with opioids, producing better pain relief at lower doses of opioids with potentially fewer opioid side effects. Paracetamol and nonsteroidal anti-inflammatory drugs The first step on the WHO analgesic ladder is designed to treat mild pain, and recommends the use of paracetamol and/or nonsteroidal anti-inflammatory drugs (NSAIDs). Both para- cetamol and NSAIDs can be considered either alone (step 1) or in combination with opioids (step 2 and 3) to improve analgesia and reduce opioid-related side effects. It is generally accepted that paracetamol is introduced first with an NSAID added to para- cetamol or substituting paracetamol if indicated. NSAIDs are considered as second choice in mild pain, provided there is no contraindication. Adjuvant drugs Adjuvant drugs target specific mechanisms commonly involved in neuropathic pain and the most frequently used are tricyclic antidepressants such as amitriptyline and imipramine, and anti- convulsants such

as gabapentin and pregabalin (Table 7.2.3). The use of gabapentin or amitriptyline in combination with opioids is recommended in patients with cancer pain that is only partially responsive to opioid analgesia and has a neuropathic element. Amitriptyline can be a good choice for the patient who is unable to sleep. The use of these drugs is likely to cause significantly in- creased adverse effects. Duloxetine, an serotonin–norepinephrine reuptake inhibitor (SNRI), is an alternative adjuvant to tricyclic antidepressants. Steroids, often dexamethasone, are used for liver capsule pain and nerve plexopathies. The lowest effective dose should be used. Step 2: opioids for mild to moderate pain For pain unrelieved by step 1 and moderate pain, the important issue at this stage is to prescribe a therapeutic dose of codeine and paracetamol, which would be 60 mg and 1000 mg, respectively, four times a day. Tramadol with paracetamol is an alternative op- tion advocated in some countries. The use of low doses of drugs that are normally used at step 3 (severe pain) has been debated. This could include low-dose oxy- codone, or transdermal fentanyl. This method has the potential advantage of a simple upwards dose titration if pain is not con- trolled, but seems opioid responsive. This technique might be Table 7.2.2 Opioid-induced side effects and their principle management Side effect Management Nausea and vomiting Antiemetics (e.g. metoclopramide; anticholinergics; opioid rotation) Sedation Discontinue other sedating medications; opioid rotation; psychostimulants; donepezil Constipation Prophylactic treatment with stool softener and bowel stimulant; nonabsorbable laxative (lactulose, polyethylene glycol); metoclopramide; opioid antagonists Dry mouth Discontinue other drugs with this side effect (e.g. anticholinergics); good regular mouth care; iced drinks; saliva replacement sprays Mild pain Moderate pain Severe pain <3 out of 10 on NRS Paracetamol* NSAIDs* Codeine Dihydrocodeine Tramadol Morphine Diamorphine Fentanyl Hydromorphone Oxycodone Step 1 Nonopioids Step 2 Weak opioids *Nonopioids and adjuvants can be used at any step WHO = World Health Organization; NRS = numerical rating scales; NSAIDs = nonsteroidal anti- inflammatory drugs Step 3 Strong opioids 3–6 out of 10 on NRS

> 6 out of 10 on NRS Fig. 7.2.1 Adaptation of the WHO analgesic ladder to show analgesic treatment options.

632 Section 7 Pain and palliative care clinically appropriate for some patients and success depends on an appropriately low starting dose to avoid unwanted side effects. Transdermal fentanyl is not ideal in a situation of severe uncon- trolled pain due to the longer time required to reach optimum dose. Evidence is accumulating for going straight to low dose step 3, rather than step 2. Step 3: opioids for moderate to severe pain Strong opioids that are used in palliative care include: morphine, alfentanil, buprenorphine, diamorphine, fentanyl, hydromorphone, methadone, and oxycodone. Immediate release oral morphine administered every four hours is effective and safe and was the first rational pharmacological ap- proach proposed to treat cancer pain. The improved availability of different opioids has resulted in greater experience with the use of these drugs. Oxycodone or hydromorphone are alternatives to oral morphine as an opioid of first choice. No evidence exists demonstrating the superiority of one oral opioid over another; oral morphine, hydromorphone, and oxy- codone preparations are to be considered equivalent as first choice drug for moderate to severe cancer pain. In many countries mor- phine is most commonly used first line

because of clinician fa- miliarity and cost. There is significant inter and intraindividual variation in opioid response. An open mind should be adopted to switching an opioid to achieve better pain relief. Transdermal opioids Fentanyl and buprenorphine are opioids with short-acting anal- gesic activity after intravenous or subcutaneous administration. Their low molecular weight, high potency, and lipid solubility, make them suitable for delivery via the transdermal therapeutic system. Transdermal fentanyl and buprenorphine are adminis- tered increasingly for moderate to severe cancer pain because of their formulation and favourable pharmacological profile. The de- livery system results in a slow build-up of drug in plasma levels, but once reached these will remain clinically stable. Transdermal delivery of drugs can be useful in patients with oral or other gastrointestinal problems. This form of fentanyl and buprenorphine can be used in patients with stable oral opioid re- quirements as an alternative to oral slow-release opioids. Methadone Methadone has often been considered an alternative to oral mor- phine, but its pharmacokinetic characteristics of a very long and unpredictable individual half-life have meant that in clinical practice its use is usually initiated and supervised by a specialist. In this situation it is usually prescribed for the patient who has evidence of some elements of an opioid-responsive pain, but that requires doses at a level associated with unwanted side effects. Breakthrough pain The term ‘breakthrough pain’ has been used to describe a phenom- enon whereby pain intensity suddenly increases to a moderate to severe level beyond controlled background pain. Implicit in this definition is the administration of regular opioid analgesia for background pain. Breakthrough pain can result from slow-release medication wearing off and we call this end of dose failure. Another type of breakthrough pain can be more of an increase in back- ground pain due to an increase in activity or other factors. Both these types of breakthrough pain usually respond well to imme- diate release morphine or other prescribed opioid, usually given as one-sixth of the 24-hour around the clock dose. For breakthrough pain associated with metastatic bone disease or neuropathic pain, there can be a very sudden onset of pain of short duration: the fun- damental problem with standard immediate release opioid medi- cation is that the onset of action lags significantly behind the peak of the pain and the duration of analgesia is much longer than the breakthrough pain episode. This translates into poor pain control, with excessive drowsiness. A variety of fast-acting fentanyl preparations is now available. These formulations have a slightly more favourable pharmacokin- etic profile than oral immediate release morphine for rapid onset Table 7.2.3 Summary of adjunctive therapies for neuropathic pain Drug group Probable mechanism of action Typical regimen options Corticosteroids Reduce pain-provoking ‘inflammatory soup’ and oedema Dexamethasone 8 mg twice daily; reduce slowly in 25% decrements. Antidepressants Enhance central inhibition by an increase in synaptic noradrenaline reuptake Amitriptyline initiated at low dose: 10–25 mg at night; increased slowly to maximum 120 mg (dose usually limited by side effects). Duloxetine 30 mg once daily, increase to 60 mg after one week (max 120 mg/day in divided doses). Anticonvulsants Decrease in neuronal excitability Gabapentin 100–300 mg at night; increased in 100–300 mg increments every three days as tolerated. Up to a maximum of 1800 mg/day. Pregabalin 150 mg/day in two divided doses. After three to seven days increase to 300 mg/day if needed. Then to a maximum of 600 mg/day after seven days if required. Class 1b cardiac antiarrhythmicsa Decrease neuronal excitability by blocking sodium channels Seek specialist advice. IV lidocaine up to 5 mg/kg as infusion over 30 minutes. Lidocaine 5% patch: apply up to three patches once daily for up to 12 h, follow with minimum 12 h patch-free interval. NMDA antagonistsa Inhibit pathological neuronal phenomena, such as wind-up. Increase response to opioids Seek specialist advice. Typically ketamine 50–500 mg/day, depending on administration route a Specialist advice must be sought before using these groups of drugs because of potential

side effect risks.

7.2 Pain management 633 breakthrough pain. However, they are not a solution for most pa- tients with breakthrough pain. It is important to discuss potential use of fast-acting fentanyl preparations with a specialist. Opioid titration The traditional use of administering immediate release oral morphine every four hours was not founded on controlled clinical trials but on longstanding clinical practice combined with pharmacological rationale based on the short half-life of oral morphine. The advent of slow-release oral morphine, oxy- codone, and hydromorphone preparations has made it possible to maintain appropriate plasma levels to deliver analgesia for periods of time ranging from 12 to 24 hours, and with trans- dermal delivery systems of fentanyl and buprenorphine for up to three days. This development encouraged the clinical practice of using slow-release oral opioid preparations or transdermal opioid de- livery systems in opioid-naive patients or those patients pre- viously exposed only to drugs at step 2. The literature has not identified any problems with this approach as long as appropriate starting doses are chosen. For the nonspecialist, the 'conven- tional practice' of starting with immediate release morphine can allow a more accurate reassessment of effects and future titration decisions. Titration can be performed with slow-release opioid formula- tions according to their pharmacological profile in combination with oral immediate release opioids. The use of the immediate re- lease opioid (for breakthrough pain)—prescribed at one-sixth of the total 24-hour opioid dose—will guide dose adjustment of the slow-release preparation. Pain management needs an interdisciplinary approach We can make pain management more complex by employing only systemic analgesics. The WHO three-step approach is only effective if integrated with appropriate other inputs, depending on the individual patient. Effective appropriate oncological or other disease-specific management, interventional anaes- thesia, physiotherapy, occupational therapy and clinical psych- ology are among the key approaches which need to be available (Table 7.2.4). Uncontrolled pain Difficult-to-control pain can have a variety of complex causes, how- ever, a common cause is a period of poorly controlled pain. Unrelieved pain can itself cause difficult to reverse neurobiological changes. All attempts should be made to control pain throughout the illness. Failure to do so can mean a very distressing end-of-life period. FURTHER READING Caraceni A, et al. for EPCRC Collaborative on behalf of EAPC (2012). Evidence-based guidelines for the use of opioid analgesics in the treatment of cancer pain: the 2011 EAPC recommendations. Lancet Oncol, 13, e58–e68. National Institute for Health and Care Excellence (NICE) (2013). Neuropathic Pain in Adults: Pharmacological Management in Non-Specialist Settings. Clinical guideline [CG173]. Last updated: February 2017. https://www.nice.org.uk/guidance/cg173 Portenoy R (2011). Treatment of cancer pain. Lancet, 377, 2236–47. Scottish Palliative Care Guidelines. http://www.palliativecareguidelines. scot.nhs.uk/ Scottish Intercollegiate Guidelines Network (2008). SIGN Guideline 106 Control of Pain in Adults with Cancer. http://www.sign.ac.uk/ assets/sign106.pdf Table 7.2.4 Optimizing analgesic approaches Approach Therapeutic options Pharmacological techniques Pharmacological techniques to reduce systemic opioid requirement Co-administration of nonopioid analgesic or an adjuvant analgesic Neuraxial drug infusion or other route change Local nerve blocks Topical treatments Palliative chemotherapy Hormonal therapy Bisphosphonates Radioactive isotopes Non-pharmacological techniques Nonpharmacological techniques to reduce systemic opioid requirements Palliative radiotherapy Anaesthetic approaches Surgical approaches Transcutaneous electric nerve stimulation Acupuncture Therapeutic massage Rehabilitative approaches Psychological approaches

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ESSENTIALS Common symptoms in life-limiting illness include pain, fatigue, anorexia, nausea, constipation, and dyspnoea. These may be due to disease or disease progression, treatment side effects, an inter- current acute problem, or comorbidity. Effective treatment always depends on making as precise a diagnosis as possible (e.g. pharma- cological management of nausea and vomiting is guided by the pre- sumed mechanism). Symptoms can also herald an emergency (e.g. sepsis, delirium, spinal cord compression), when the patient's frailty, likely prognosis, and own values and wishes need to be taken into account in plan- ning management. Individualized assessment and decision-making are vital. Introduction A symptom is a patient's complaint or problem. The principles of symptom management are:

1. Identify the cause of the symptom by history, relevant examin- ation and investigation
2. Clarify the meaning of the symptom with the patient
3. Treat the cause, if possible
4. Treat the symptom, while the cause is being treated, and espe- cially if the cause cannot be treated
5. Provide explanation and education
6. Pharmacological and nonpharmacological treatments should be considered
7. Frequent or continuous symptoms need regular treatment, not as-required treatment
8. Oral treatment is simple and usually as effective as parenteral treatment Common symptoms in life-limiting illness include pain, fatigue, anorexia, nausea, constipation, and dyspnoea (Table 7.3.1). Patients with life-limiting illnesses often have multiple comorbidities and might be on many medications. The management of symptoms needs to take account of the cause of the symptom, the patient's goals and wishes, the existence of comorbidities, the patient's prognosis, and the effect of polypharmacy. When there are multiple symptoms, discussion with the patient and clinical assessment are needed to prioritize how symptoms are dealt with. Symptoms may be due to:
9. Disease or disease progression
10. Treatment side effects
11. Intercurrent acute problem

12. A comorbidity An important part of symptom management is the realization that although a patient has a life-limiting illness, active medical inter- vention to treat symptoms, avoid harm, and improve quality of life are important. A fatalistic approach should be avoided simply be- cause a patient has been identified as having palliative care needs or a life-limiting illness. Symptoms might indicate an emergency, a serious medical problem requiring treatment to prevent significant harm, or a negative impact on the patient's life (Box 7.3.1). Nausea and vomiting Nausea and vomiting may arise from a variety of causes. Assessment follows the usual format of history, examination and investigation to establish the likely diagnosis. 7.3 Symptoms other than pain Regina McQuillan Table 7.3.1 Common symptoms in life-limiting illness Symptom Cancer Heart disease COPD Pain 35–90% 40–77% 34–77% Depression 3–77% 9–36% 37–71% Anxiety 13–79% 49% 51–75% Confusion 6–93% 18–32% 18–33% Fatigue 32–90% 60–82% 68–80% Breathlessness 10–70% 60–88% 90–95% Insomnia 6–96% 36–48% 55–65% Nausea 6–68% 17–48% No data Constipation 23–65% 38–42% 27–44% Diarrhoea 3–29% 12% No data Anorexia 30–92% 21–44% 35–67%

7.3 Symptoms other than pain 635 History • Onset, precipitating, and relieving factors • Volume, content (including haematemesis) of vomitus • Symptoms such as anorexia, early satiety, and belching, which may be associated with squashed stomach or delayed gastric emptying due to obstruction or gastroparesis • Symptoms suggestive of contributing causes (e.g. constipation, renal failure, brain metastases, thirst and/or confusion) that may suggest hypercalcaemia or infection • Medication changes Examination guided by history to check for: • Dehydration • Hepatomegaly • Constipation • Bowel obstruction Investigations • Electrolytes, (including corrected calcium in cancer) • Renal function, as renal impairment may cause nausea • Liver blood tests for evidence of liver metastases • Full blood count, for evidence of infection • Radiology, depending on likely cause Reverse the reversible If a cause can be found for the nausea, that should be treated (e.g. treatment of infection or hypercalcaemia). Other causes of nausea may be more difficult to treat (e.g. renal failure), and the benefits and burdens of treatment need to be considered in light of the patient's performance status, likely prognosis, and treatment preferences. Nonpharmacological management of nausea and vomiting in- clude modifying the diet (small meals), avoiding precipitants (e.g. smells), and providing education to the patient and family. Treatment Pharmacological management of nausea and vomiting is usually guided by the presumed mechanism (Table 7.3.2). Motility disorders, for example, gastroparesis, may respond to prokinetic such as domperidone 10 mg tds. Domperidone does not cross the blood-brain barrier. Higher doses of domperidone can be tried, up to 90 mg daily, but there is a risk of QT prolongation. Metoclopramide can be used; the dose is 10 mg tds. Metoclo pramide crosses the blood-brain barrier and there are risks of extrapyramidal side effects. The European Medicines Agency has recommended that metoclopramide be used for no more than five days at a time. Chemotherapy-related nausea and vomiting, use 5-HT3 ant- agonists, metoclopramide or steroids (e.g. dexamethasone 4 mg daily). Intracranial disorders, including brain metastases, use anticholinergics (e.g. cyclizine or levomepromazine). Nausea can be multifactorial, and a combination of antiemetics might be needed. Antiemetics should be tried at appropriate doses and given regu- larly if the nausea and vomiting are frequent or continuous. If a patient has severe nausea or vomiting, the antiemetic might not be absorbed and might not be effective. Parenteral antiemetics might be needed, as bolus injections (subcutaneous, intramuscular, or intra- venous), or as a subcutaneous infusion or an intravenous infusion. Constipation Constipation is common in

patients with life-limiting illness. Prevention is important, by education, regular assessment, and nonpharmacological measures, including dietary modification (which can be difficult in the context of advanced illness and anor- exia), attention to hydration and exercise, where possible. Laxatives should be chosen depending on tolerability to patient. Laxatives are in two main groups: one group are stool softeners, the others are stimulant; most have a mixed action. Start with a stimulant laxative and titrate to maximum dose tolerated before adding a second drug. Treatment See Table 7.3.3. Breathlessness If there is a sudden onset of severe dyspnoea, consider whether this is an emergency, such as stridor, pulmonary embolus, or mucus plugging, and what should be the urgent management of the patient. Dyspnoea is often multifactorial, and difficult to manage pharmacologically. Look for a reversible cause, which might be Box 7.3.1 Case vignette Mrs KL is a 68-year-old lady who attended her GP with right upper quadrant (RUQ) discomfort and weight loss. She is a heavy smoker, had GOLD stage 11 chronic obstructive pulmonary disease (COPD), and hypertension. She was evaluated by her GP, who found new hepatomegaly, and arranged blood tests and a liver ultrasound which showed liver metas- tases. Her GP was concerned that she may have lung cancer and she was referred for urgent assessment. An ultrasound-guided liver biopsy showed adenocarcinoma, consistent with an upper gastrointestinal (GI) cancer. A gastroscopy (OGD) and biopsy confirmed gastric cancer. Mrs KL was referred to an oncologist. Mrs KL was told that surgery and radiotherapy were not possible. She was offered palliative chemo- therapy to reduce symptoms and prolong life but she refused this. She was started on regular paracetamol 1gm tds for her RUQ pain. Two weeks later she attended her GP with anorexia. She felt very full after eating a small amount of food. Mrs KL missed not being able to eat meals with her family and feared wasting away before she died. Her GP advised small meals and snacks, discussed the natural history of cancer, and prescribed domperidone 10 mg tds. Her anorexia persisted. Her GP prescribed steroids as dexamethasone 4 mg daily. Mrs KL declined as she had had side effects with steroids in the past. Mrs KL decided to continue with a modified diet of small meals and snacks. Three weeks later Mrs KL complained that every evening she has a large vomit including food she ate earlier that day. Her GP was con- cerned that she might have gastric outlet obstruction. She was referred for an urgent OGD, and was found to have an obstruction which was successfully stented and Mrs KL was able to eat small meals again. Two weeks later, Mrs KL presented with increased abdominal pain in her RUQ, despite regular paracetamol. She felt she had too many tab- lets to take. Her GP decided to start on her on low-dose morphine slow release, 5 mg twice a day, and stopped the paracetamol. She also pre- scribed a laxative, senna two tablets at night, to prevent constipation. As a result of her comments about medication, her GP reviewed her drugs and stopped medication for secondary prevention of cardiovas- cular disease, including aspirin, statins, and angiotensin-converting- enzyme (ACE) inhibitors.

 disease related or due to comorbidity, such as pleural effusion, lower respiratory tract infection, acute exacerbation of congestive cardiac failure, or chronic obstructive pulmonary disease (COPD) (Box 7.3.2). Nonpharmacological management includes respiratory re- habilitation techniques such as positioning, breathing techniques, anxiety management, and managed exercise. Cold air, from a fan blowing across the face, may also be helpful. There is good evidence for the use of opioids. Morphine 2 mg orally every 4–6 hours can be tried and titrated to effectiveness, or side effects, or lack of benefit. If a dose is reached that is benefi- cial, a modified release preparation can be used. Benzodiazepines such as lorazepam 500 micrograms every 4–6 hours, diazepam 2–5 mg at night (long half-life) or subcutaneous (SC) midazolam 2 mg at 4–6 hourly intervals are sometimes used, but there is less evidence to

support this. Table 7.3.2 Pharmacological management of nausea and vomiting guided by the presumed mechanism Cause Associated symptoms and signs Treat cause Drug and dose Mouth problems, including dry mouth, candida Dry mouth, coated tongue, mouth soreness Treat candida Oral hygiene Treat dry mouth with artificial saliva, saliva stimulant (e.g. pilocarpine, use of chewing gum to increase saliva production) Squashed stomach Early satiety, belching, hiccups Small meals Metoclopramide 10 mg tds (up to 90 mg daily)a Domperidone 10 mg tds (up to 90 mg daily)b Gastroparesis Early satiety, belching, hiccups Small meals Metoclopramide 10 mg tds (up to 90 mg daily)a Domperidone 10 mg tds (up to 90 mg daily)b Gastric outlet obstruction Early satiety, belching, hiccups, vomiting of recent meals Refer for possible stenting Hypercalcaemia Associated symptoms of hypercalcaemia, thirst, constipation, confusion Treat raised calcium Renal failure Nausea, associated renal failure symptoms, confusion, urinary symptoms Weigh benefits and burdens of active management of renal failure Cyclizine 50 mg tds Haloperidol 0.5–2 mg dailyc Levomepromazine 6–12 mg dailyc Chemotherapy- related Related temporally to chemotherapy; different types of treatment cause nausea and vomiting at different times Discuss with oncologists Raised intracranial pressure Worse in morning, associated headache; Vomiting with little nausea Weigh benefits and burdens of palliative radiotherapy and/or chemotherapy Trial of steroids to reduce associated oedema. Cyclizine 50 mg tds Levomepromazine 6–12 mg dailyc Bowel obstruction Vomiting, absolute constipation; in subacute obstruction, alternating constipation, and diarrhoea If likely to be a single site of obstruction- consider if surgery or stenting possible Trial of steroids. Trial prokinetics in subacute bowel obstruction. Cyclizine 150 mg daily as SC infusion +/- haloperidol 1–2.5 mg dailyc a Recent guidance related to extrapyramidal side effects b Risk of prolonged QT syndrome c Unlicenced use Table 7.3.3 Constipation treatment Example Start dose Speed of action Oral softener Macrogols Polyethylene glycol 1–3 sachets daily 1–3 days Osmotic laxatives Lactulose 15 ml twice daily 1–2 days Surfactants Docusate 500 mg daily in divided doses 1–3 days Oral stimulants Anthracenes Senna 1–2 tablets;10 ml daily 8–12 hours Polyphenolics Bisacodyl 1–2 tablets daily 6–12 hours Rectal softener Focal lubricants Arachis oil One 1 hour Docusate enema One 5–20 mins Osmotic laxatives Glycerol One 5–15 mins Saline laxatives Phosphate enema One 15 mins Rectal Stimulant Bisacodyl 1–2 15–60 mins

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given parenterally as SC bolus doses or SC infusion. Hyoscine hydrobromide crosses the blood-brain barrier, and can cause delirium; however, as it can be given transdermally, it might be worth trying if the SC route is not possible. These drugs can cause quite a severe dry mouth. Cachexia Cachexia is common in advanced illness, but most research is in cancer cachexia. Patients with cancer cachexia have anorexia, early satiety, and nausea. They might have altered taste or smell. Reversible causes for anorexia and nausea should be considered including for example, dry mouth, candida, hypercalcaemia, medi- cation and renal failure. Early cachexia might be reversed or eased by interventions such as nutritional supplements. Refractory cach- exia cannot be reversed, but management might reduce symptoms and anxiety associated with this. The non-pharmacological management of cachexia includes pa- tient and family support and education. In earlier stages, education about nutritional intake and strategies to manage a poor appetite are helpful. As illness progresses, education about the nature of cachexia, and an understanding of why appetite is poor can help both patients and families. Nutritional support is rarely benefi- cial in advanced cancer, but might be helpful in selected patients. Potential benefits need to be weighed with burdens of stress caused by patients being encouraged to increase intake when they cannot. Parenteral nutrition is rarely indicated. Pharmacological management is limited. A trial of steroids might improve appetite and quality of life, but ideally should not be used for more than two weeks as side effects, especially muscle weakness, can outweigh benefit. Megesterol and progestins can in-crease appetite and body weight, but not muscle mass, and do not improve survival. Prokinetics might improve symptoms in patients with early sa- tiety, nausea or dyspepsia. Regular metoclopramide or domperidone can be used. Fatigue The management of fatigue should be approached in the same way as management of all other symptoms: evaluate the cause, treat any reversible cause, provide education, and plan treatment. There is little evidence to support any pharmacological treatment. Steroids, such as dexamethasone 4 mg daily, should be tried for three days, and if no benefit, stopped. Methylphenidate has also been used, starting at a dose of 5 mg daily to 15 mg. This is an unlicenced use, and caution is required in patients with anxiety, cardiac disease, or epilepsy. Nonpharmacological management includes patient and family education about pacing and conserving energy. Graded exer- cise can also be tried. Referral to occupational therapy and physio- therapy services might be beneficial. Emergencies in palliative care Symptoms can herald an emergency, and palliative care patients, despite living with life-limiting illness, might develop a pro blem which can rapidly affect the duration or quality of their life. Emergencies include sepsis, delirium and, in cancer patients, hypercalcaemia, spinal cord compression, massive haemorrhage, and superior vena caval obstruction. The management of these prob- lems, for example, sepsis or delirium, is the same as the management of these problems in the general population, but the patient’s frailty, likely prognosis, and own values and wishes need to be taken into account when planning treatment. For example, a patient with se- vere sepsis who is receiving palliative chemotherapy might be neu- tropenic, and might benefit from active management of the sepsis; a patient with multiple severe lower respiratory tract infections sec- ondary to end-stage COPD or dementia might not benefit in the same way. Individualized assessment and decision-making is vital. Spinal cord compression Spinal cord compression is a risk in patients who have vertebral or epidural metastases. Symptoms include cervical or thoracic spinal pain, severe lower spinal pain, spinal pain worse on straining (e.g. coughing), or spinal pain worse when lying flat. Neurological symptoms are radicular pain, limb weakness, difficulty in walking, sensory changes, and bladder or bowel dysfunction. Signs in- clude spinal tenderness, and reduced power, sensory changes, and Box 7.3.2 Case vignette Mrs KL developed a cough with increased breathlessness and attended her GP. Her GP assessed her and was concerned when she said she had coughed up small

amounts of blood. On examination, she had signs of COPD, but also had evidence of a pleural effusion with absent air entry at the right lung base. An urgent chest X-ray confirmed a pleural effu- sion. Mrs KL had a chest drain inserted and a total of four litres of blood stained fluid drained with considerable relief.

638 Section 7 Pain and palliative care urinary retention. If spinal cord compression is suspected, an MRI should be arranged within 24 hours, and dexamethasone 16 mg daily commenced, while definitive treatment, for example, surgery or radiotherapy, is being planned. Bowel obstruction Bowel obstruction occurs in 3–15% of cancer patients. Patients pre- sent with nausea, vomiting, constipation, abdominal pain, and colic. The management of bowel obstruction in the first instance is consid- eration if stenting or surgery is possible. In end-stage disease, where neither surgery nor stenting is possible, and the prognosis is short, the focus is on symptom management. Medication usually has to be given parenterally. Pain can be treated with analgesia, such as opioids. Colic is treated with anticholinergics, such as hyoscine butylbromide, which can also reduce gastrointestinal secretions, and thus reduce vomiting and abdominal distension. Ranitidine, 200 mg daily, also decreases gastrointestinal secretions. Dexamethasone, 8 mg daily, might help resolve the obstruction. There is clinical experience of using octreotide, a somatostatin analogue, although a recent well- designed randomized controlled trial does not support its use. Delirium Delirium is very common in the medically frail, affecting approxi- mately 20% of all hospital inpatients. Delirium affects up to 80% of people towards the end of their life. The management of delirium in a patient with palliative care needs is the same as the management in all patients, including reversing possible causes and support and re-orientation. If patients are distressed, treatment with halo- peridol or olanzapine might be necessary. Although many patients with palliative care needs are on opioids, if a patient on stable opi- oids become delirious, alternate causes need to be sought including sepsis, renal failure, and dehydration. However, as delirium can be a terminal event, the benefit of attempting to reverse the cause of the delirium needs to be con- sidered in the context of patient's likely survival. Patients in the last days of life who are delirious might need treatment with benzodi- azepines to reduce anxiety, and to provide sedation if the patient is very distressed. If a patient has sedation, it is essential that all other interventions required to maintain comfort, including other medication, artificial nutrition, and hydration and nursing care are considered and provided where necessary. Conclusion Patients with life-limiting illness often have multiple symp- toms, both physical and mental. Although a patient might have a life-limiting illness, active management of symptoms will help im- prove a patient's quality of life. The clinician's role is assessment and diagnosis of the cause of the symptoms, using medical know- ledge to plan treatment, including referral to other members of the multidisciplinary team, in the context of the patient's diagnosis, prognosis, and multimorbidity; and providing education and ex- planation to the patient and their family. FURTHER READING Currow D, et al. (2015). Double-blind, randomized trial of octerotide in malignant bowel obstruction. J Pain Symptom Manage, 49, 814–21. European Palliative Care Research Centre (PRC) (2015). Cachexia in Palliative Care. https://www.ntnu.edu/prc/results/epcrc-guidelines European Palliative Care Research Centre (PRC) (2015). Depression in Advanced Disease. https://www.ntnu.edu/prc/results/epcrc-guidelines Larkin PJ, et al. (2008). The management of constipation in pal- liative care: clinical practice recommendations. Palliat Med, 22, 786–807. National Clinical Effectiveness Committee (2015). Management of Constipation in Adult Patients Receiving Palliative Care. National Clinical Guideline No. 10. http://health.gov.ie/wp-content/uploads/2015/11/Mgmt-of-Constipation-Guideline.pdf National Institute for Health and Care

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ESSENTIALS The care a patient receives in the last hours to days of life is im- portant: it has a significant impact on their quality of life and death, and on the psychological well-being of their loved ones and the team delivering care. Most deaths are not sudden or unexpected, but recognition that a patient is dying is challenging. Clinicians' es- timates of survival are often inaccurate, with a tendency towards over-optimism, yet clinical teams must be able to agree goals and care plans with patients and their loved ones while acknowledging and communicating the uncertainty inherent to prognostication. Shared individualized decision-making is essential: patients must be offered the opportunity to participate in decisions, but a preference not to be involved should be respected. The aim must be to agree an individual plan of care that incorporates the needs and prefer- ences of the person and, as far as it is possible, those close to them. Introduction The care a patient receives in the last hours to days of life has a sig- nificant impact on their quality of life and death, and on the psy- chological well-being of their loved ones and the team delivering care. There is only a small window of opportunity to optimize care and only one chance to ensure that the right care has been delivered in the right place in the right way. Care involves several core com- ponents (see Box 7.4.1) that should be reviewed on a regular basis (Fig. 7.4.1). To achieve this, services must be configured to provide round the clock care to dying patients in all care settings, including their own home. This necessitates adequate training for all multidisciplinary teams providing care to dying people, accessible evidence-based guidance, responsive community services, high-quality facilities in care institutions, and 24-hour access to senior clinicians, expert teams, medication, and equipment. Recognition of dying Recognition that a patient is dying is challenging. It requires inter- pretation of multiple clinical features that are disease- and patient- specific, in an emotionally charged and dynamic context. Clinical teams must be able to agree goals and care plans with patients and their loved ones, while acknowledging and communicating the uncertainty inherent to prognostication. Definitions Several ambiguous terms, including palliative, terminal, and com- fort care, are applied to dying patients. This confuses communica- tion with patients, relatives, and professionals. A person should be described as dying when they are expected to live only for hours to a short number of days. In contrast, the term 'end of life' applies from the point a person is believed to be entering the last months to a year of life. Recognition of dying is fundamental to good care in the last days of life (see Box 7.4.2). The

process Most deaths are not sudden or unexpected. They are the conse- quence of progressive incurable illnesses, multimorbidity, and frailty. For such patients, recognition of dying should have been preceded by exploration of prognosis and treatment goals earlier in their disease trajectory. If early communication has not occurred, clinicians might be confronted by a patient who is deteriorating and at risk of dying with whom they are unfamiliar, who has not been engaged in ad- vance care planning, and who might lack capacity to participate in decisions. Even in situations when a patient is known to be ter- minally ill and some planning has taken place, they might also be receiving treatment for a potentially reversible intercurrent illness. The associated uncertainty further complicates recognition of dying and subsequent decision-making. 7.4 Care of the dying person Suzanne Kite and Adam Hurlow Box 7.4.1 Requirements for high-quality care of the dying patient • Timely recognition that a patient is likely to die in hours to days • Sensitive communication with the dying person and those close to them • The opportunity for the patient and their loved ones to participate in decision-making • The agreement and implementation of individualized and realistic treatment goals and care plans • Practical and emotional support for the dying person and their family and friends • Regular holistic review of the dying person and their plan of care

640 Section 7 Pain and palliative care This illustrates the need for thorough clinical assessment and in- vestigation, leadership from senior clinicians expert in treatment of a patient's underlying condition(s), high-quality handover, and engagement of the multidisciplinary team in establishing the cause of deterioration and recognition of dying. Services should be con- figured to ensure this is possible at any given time. Recognition of dying involves the identification of deteriorating health and a judgement that if the physiological processes under- pinning it are not—or cannot—be addressed, then they are likely to be fatal within hours to days (see Fig. 7.4.2). It is essential that the right professionals and expertise are engaged in establishing if attempts to reverse clinical deterioration are likely to work and are consistent with a patient's wishes. The recognition that a patient might be dying imminently is one step in a cycle of assessment, re-assessment, and decision-making. Prognostication in the last days of life Clinicians' estimates of survival are often inaccurate, with a ten- dency towards over-optimism. Accuracy is improved if clinical judgement is combined with explicit consideration of performance status and relevant clinical and biochemical markers (Box 7.4.3). The health of an individual patient can fluctuate and the rate and degree of change in the patient's overall condition is informative. Repeat prognostic assessment, including serial application of a prognostic tool, has been shown to improve accuracy beyond esti- mates derived from a single assessment. Prognostic tools Unfortunately there is a paucity of reliable, adequately validated prognostic tools that accurately predict survival of hours to days. No one tool or approach is likely to be applicable across mixed patient populations. However, the Palliative Performance Scale (PPS) is a nondisease-specific tool based on functional and disease status, oral intake, and conscious level that might be a useful ad- junct to experienced clinical judgement. The PPS has been applied to patients with cancer and noncancer diagnoses in various settings. For patients scoring less than 20% on the PPS, seven-day mortality ranged between 50 and 99%. Survival continued to fall as scores reduced; 85% of patients scoring 10% died within three days. However, even applying the PPS, clinicians' estimates were accurate in only 20% of patients demonstrating the usual tendency to overestimate survival. Decision-making Clinicians, patients, and their loved ones need to understand that survival estimates are provisional and subject to considerable un- certainty. This necessitates robust clinical assessment by senior clinicians, multidisciplinary team engagement, regular review, and high-quality communication with patients

and those close to them. Shared individualized decision-making is essential. Patients must be offered the opportunity to participate in decisions but a preference not to be involved should be respected. The involve- ment of loved ones in significant discussions might be helpful for Recognize dying Communicate this to your patient, those close to them and the MDT Offer your patient and those close to them the opportunity to participate in care planning Review your patient regularly Support your patient, their family and friends Implement an individualized care plan Fig. 7.4.1 Care involves several core components that should be reviewed on a regular basis. Adapted from Leadership Alliance for Care of Dying People (2014). One Chance to get it Right. UK Government Publications Gateway Reference 01509. Box 7.4.2 Reasons why recognition of dying is important • Patients and those close to them may want prognostic information and should be offered the opportunity to understand that death is imminent. • An understanding of prognosis may help patients and relatives to appraise care and treatment options including place of death. • It is the last opportunity for loved ones to say goodbye. • An understanding that their family or friend is dying may help the bereaved psychologically and emotionally process their grief. • It is an opportunity to review care plans, manage symptoms, evaluate the benefit of interventions and provide resources (parking permits, facilities to stay overnight in hospital) to support friends and family. • It is likely to be the last opportunity to help a patient achieve their preferred place of death and related preferences.

7.4 Care of the dying person 641 patients and the views of those people close to patients who lack capacity are important in determining what their wishes might have been. However, their views do not outweigh those of a patient with capacity. Those close to the patient should be reassured that, when a patient lacks capacity, the burden of responsibility for deci- sions to forgo clinically ineffective treatment or other best interests decisions, lies with the treating team. Recognition of dying embodies a process of thorough clinical as- sessment in which patients' and relatives' views and understanding are elicited, their needs defined, realistic goals agreed, probable outcomes explained, and management plans implemented and re- vised in light of changing circumstances. Communication Good communication with people who are dying can have a profound effect on the quality of the patient's remaining life, and for the bereavement and memories of those close to them. Sensitive communication that time is now very short, and of what might be expected to happen, helps to build the trusting Recognize your patient's health is deteriorating over hours to days. Establish if they would consider life-prolonging treatment. If they would consider treatment, assess and investigate the cause of deterioration. Assess the likelihood that the deterioration can be delayed, halted, or reversed. Consider the benefits and burdens of treatment with your patient and/or those close to them. If:

1. clinical deterioration cannot be forestalled or
2. the patient has declined treatment or
3. treatment is not in their best interests Your patient is at risk of dying within hours to days. Regularly review your patient's condition, prognosis, and care plan, revising treatment in light of clinical developments. Fig. 7.4.2 Recognition of dying involves the identification of deteriorating health and a judgement that if the physiological processes underpinning it are not, or cannot be, addressed then these are likely to be fatal within hours to days. Box 7.4.3 Features suggesting an increased risk of imminent death • Elevated and escalating medical early warning scores/a deterior- ation in physiological observations • Progressive impairment of mobility to the point that a patient is in bed all the time • Progressive

functional impairment to the point that a patient is fully dependent for all personal care • Progressive reduction in oral nutritional intake to the point that a patient can take only minimal amounts of fluid and may be unable to swallow their own saliva • Progressive impairment of consciousness • Increasing confusion/delirium • Agonal breathing with alternating tachypnoea, apnoea, and gasping • The absence of any reversible cause for deteriorating health • Diagnosis of a life-limiting illness with evidence of disease progression • Progressive deterioration in biochemical markers linked to specific disease states • Reduced urine output • Increasing rate and magnitude of clinical deterioration

642 Section 7 Pain and palliative care relationships that patients need at this most vulnerable time, and supports them to share concerns and to fulfil wishes. This includes choosing who they want to be with, and where, and being involved in decisions about their plan of care. Conversely, poor communication can compound fear and anxiety, leaving patients and those close to them feeling scared and isolated. Good communication requires sensitivity, skill, and planning (see Box 7.4.4). The healthcare team needs to reflect on what needs to be com- municated, and by whom. What information needs to be shared? What do the patient and those close to them need to be consulted about, and how can they best be involved in decision-making? (Box 7.4.5). Not all patients want honest and open discussion, and this should be respected. For others, physical factors such as fatigue, frailty, cognitive impairment including delirium, and shortness of breath, might limit their capacity to participate. An assessment needs to be made for each individual, for each element of communication, with the rationale for communication and decision-making recorded in the clinical case notes. Where patients have capacity, their permission must be sought for the involvement of others. Where patients lack capacity, all those involved must be clear that the basis for decision-making is that of best interests. Discussions around dying are challenging for all of us, exposing our own beliefs and fears. Doctors should question any assump- tions that they find themselves making, particularly when these are limiting communication with a patient who has the capacity to be involved. Even when well informed, relatives can feel that they are imposing a ‘death sentence’ on their relative by agreeing to dis- continuation of treatment or a ‘Do Not Attempt Cardiopulmonary Resuscitation’ (DNACPR) status, and reassurance must be given that this is not the case. The communication skills required for the care of the dying are the same as those needed throughout Box 7.4.4 An approach to sensitive communication about dying How we communicate is as important as what we say. The usual principles of good communication apply. Prepare by: • planning what needs to be discussed • who needs to be present, including another member of staff other than yourself • establishing in advance if there are specific people a patient would like to be present for significant conversations • considering whether additional support is required, for example, for people with learning disabilities, and for those requiring an interpreter • finding a suitable private place where disruptions can be kept to a minimum • being attentive for verbal and nonverbal patient cues indicating a desire to discuss, or refrain from, sensitive issues • adopting a comfortable posture at the same level as everyone else Take particular care that communication is: • open and honest • clear and understandable, using plain language • respectful in pace and tone • empathic, but allowing for silence • responsive to what the person and those close to them feel able to discuss at that time • based on shared decision-making to the greatest possible extent Check understanding of the information being communicated. Encourage questions. Where consensus is lacking: • discuss differences of opinion openly • consider whether additional advice is necessary • offer your availability and/or that of the team for further discussion

• consider whether a second opinion would be beneficial • document discussions carefully Be aware of the impact of the discussion, and take care of yourself: • debrief with another team member, and, if necessary, seek support outside the immediate clinical environment. Box 7.4.5 Points to consider in the initial discussion • The possibility that a person may die within the next few hours/ days, and why you think this. • The cause and impact of any symptoms that the patient may cur- rently be experiencing. • Reassurance about expected bodily changes such as altered breathing patterns that could otherwise be alarming to family and friends. • How uncertainty will be managed. • How and when death might occur. • Identification of key decision-makers and people to consult, including those close to the patient, and legal representatives as appropriate. • The name of the senior responsible clinician and nurse. • How the patient/family can be involved in care planning to the degree that they wish. • Where a patient lacks capacity, the role of advance care plans, healthcare proxies, and how best interests decisions will be made. • Preferred place of care and death, with consideration of the benefits and limitations of differing settings for the individual. • Patients' and family's questions and concerns: address as appropriate throughout, and again before bringing the discussion to a close. Care planning: Review all interventions and care to identify which offer benefit to the patient. • CPR usually is of no medical benefit in these circumstances and a 'do not attempt cardiopulmonary resuscitation' decision should usually be made and the rationale explained. • Does the patient have a cardioverter defibrillator that requires deactivation? • Anticipation of the patient's needs and symptoms, including the pre- scription of anticipatory medications. • How and why medications may be given, and the rationale for using a syringe pump if required. • How those close to the patient can be involved in providing care. • Support for those close to the patient, including visiting & car parking arrangements; toilets; refreshments; overnight accommodation Communication is a process: • Explain how the dying person's care will be reviewed and when • Offer your availability and/or that of the team Document the discussion in a place accessible to all those caring for the patient, including a record of those present.

7.4 Care of the dying person 643 healthcare. Even highly experienced communicators, however, can find discussions around care at the end of life difficult for a variety of reasons. Sometimes this difficulty is in finding the words to convey upsetting and often complex information to people at a vulnerable time with sensitivity, skill, and humility. Being ad- equately prepared is crucial. Ensure that enough time is allowed for this, and that the clinician is prepared emotionally themselves. For example, the impact of a recent personal loss of their own might mean that a staff member is not the best person to lead the discussion at this time, or might need support to do so. Consider talking through the plan beforehand, and debriefing afterwards, with a colleague or senior clinician or nurse. Taking time away from the bedside to think through helpful phrases, and phrases to avoid, can be invaluable (Box 7.4.6). Observing more ex- perienced colleagues in similar situations may also be useful. Individual care plan Once it is recognized that a person is likely to die within the next few days or hours, an individual plan of care should be agreed incorporating the needs and preferences of the person and, as far as it is possible, those close to them. Such a plan includes food and drink, symptom management, and psychosocial and spiritual support, in the context of the patient's preference for place of care. Regular review and responsiveness to change in the patient's condition and needs should be part of the care plan. Compassion and sensitivity are vital in planning and providing care, and in considering how this individual's dignity can best be respected. The principles of symptom management are the same as at any stage of illness, but the priority is comfort and keeping unneces- sary disruption to a minimum. The patient's energy level

will dic- tate the degree to which they can participate directly in assessment and planning (see Boxes 7.4.7 and 7.4.8). For current symptoms, review the efficacy and route of admin- istration of medication and consider whether a nonoral (usually subcutaneous route) is required (Box 7.4.9). Prescribe appropriate medication as needed for symptoms that are common in the last hours and days of life, and which may develop, to ensure timely administration (see Box 7.4.10). It is important to review a patient's current management on an intervention by intervention basis. Some pre-existing treatments might continue to be of benefit and contribute to symptom management. For instance, insulin therapy, transdermal dopamine Box 7.4.6 Finding the words Use open questions to explore insight and understanding, and to open a discussion, such as: 'How do you think things are going?' 'How do you find your father today?' 'Has your husband expressed any wishes about where he would like to be cared for?' Closed questions can be used in response to cues or to explore issues or concerns, for example: 'Are you concerned that you will be in pain?' 'Are you worried that your mother might be thirsty?' Some phrases to avoid include: 'There is nothing more that we can do' (it is always possible to do something). 'I know what you're going through/how you feel' (you don't) 'It wouldn't be worth (doing that intervention)' or 'it would be futile' (can be taken to mean that the patient is not worthy, rather than that the treatment confers no medical benefit) Box 7.4.7 Assessment of the patient's needs This requires collaboration between the patient, those close to them, and the healthcare team: • Tailor questions to the patient's condition. • Ask specifically about symptoms likely to be present—questions re- quiring 'yes' and 'no' answers may be easier for an exhausted patient to answer. • Seek the observations of others close to the patient and other mem- bers of the team. • Look for nonverbal cues of distress. • Focused physical examination on any site of pain, the mouth, pres- sure areas, and other areas where clinical assessment suggests that there may be a problem. • Enquire about spiritual, religious, and faith requirements. • Address fears, and misapprehensions as necessary. • Take time to talk to the patient's family and those important to them: to offer reassurance, and as an opportunity to answer their questions and to address their own comfort and spiritual needs. Regular contact is appreciated, even when the patient is well-settled. Refer to specialist palliative care team early if you anticipate difficulty in ensuring the patient's comfort. Box 7.4.8 Management of patients' symptoms and promoting comfort • Aim to control the symptoms which are distressing the patient. • Discontinue medication, investigations, and routine observations unrelated to comfort measures, explaining rationale to patient and family. • Medication may need to be given subcutaneously as swallowing de- teriorates (see Box 7.4.6). • Prescribe as required (prn) medication for anticipated symptoms such as anxiety, agitation, pain, seizures, or noisy rattling breathing. • Mouthcare is very important. Patients often have a dry mouth as a result of mouth breathing, drug side effects (opiates, anticholiner- gics), compounded by poor oral fluid intake. The patient's mouth should be kept clean and moist with the frequent application (at least hourly) of foam sticks soaked in water or Biotene gel, with dry lips treated with Biotene. • Skincare includes careful positioning and regular turning, gentle massage, and an appropriate mattress. • Urinary retention is a common cause of discomfort and/or agitation. Assess whether a urinary catheter is required. • Speak gently to the patient when you approach them, and explain what you are going to do. Even if the patient appears asleep or un- conscious, they may be able to hear you. • Review regularly: nurses should review the patient regularly throughout the day, with the frequency dependent on individual patient need. Senior clinical review should be at least daily if the patient is settled, and more frequently if the patient is uncom- fortable, if their condition changes, or family or nursing staff raise concerns.

644 Section 7 Pain and palliative care agonists for Parkinson’s disease, and supplemental oxygen can pro- vide ongoing management of concurrent conditions and promote comfort for some patients as they die. Avoid blanket discontinu- ation of current therapy. As far as is possible, explain to the patient and those close to them what the dying person might experience, and approaches to managing symptoms and comfort, in particular: Food and drink. Patients and families often wish to discuss how the dying person’s hydration and nutritional needs will be met once their oral intake becomes limited. No correlation has been found between biochemical evidence of dehydration and the symptom of dry mouth, and there is the risk with parenteral hydration of per- ipheral and pulmonary oedema. There is no conclusive evidence of benefit/harms to support either the use or withholding of paren- teral fluids in dying people. In practice, subcutaneous or intravenous fluids can be used when a patient is unable to take sufficient oral fluid and they complain of thirst, or consideration of their particular physiology suggests that Box 7.4.9 Background analgesia Patients who had been swallowing oral analgesia up to this point, but can now no longer do so, will need to continue this through an alterna- tive route; for example, a patient who has been taking modified-release morphine 30 mg 12-hourly orally may be converted to: • Subcutaneous morphine: conversion rate 2:1 (i.e. morphine 30 mg by subcutaneous infusion over 24 h). • Rectal morphine: conversion rate 1:1 (i.e. morphine 10 mg 4-hourly) suppositories or morphine 30 mg 12-hourly modified-release suppositories Please seek specialist advice for other opioid conversions, and where patients already have transdermal opioid patches if you are unsure what to do. Transdermal opioid patches (i.e. fentanyl and buprenorphine) are usually continued, but not titrated further—check skin adherence and ensure that they are sited in a clearly visible and accessible place. Additional background analgesia can be provided by either of the routes mentioned here, with the dose determined by review of the efficacy and frequency of the dose of prn medication received. Box 7.4.10 Anticipatory management of common symptoms Remember to specify the indication on the prescription and explain the rationale to patient and family. Follow local guidance where available. Seek advice from the palliative care team or pharmacy if unsure of what to do. Ensure that symptom response to medication is assessed and
recorded, with medical review if symptoms persist or several doses are required. Indication Management and as required (prn) medication. Pain For patients already on opioid analgesia, see Box 7.4.9. If opioid naive: morphine 2.5–5 mg SC, with a lower dose in older people, the frail, and those with renal impairment (but eGFR >50). If morphine contraindicated or eGFR <50, consider oxycodone 2 mg SC. For patients with eGFR <10, seek specialist advice. Follow local palliative care policy on prescription of prn opioids regarding frequency and maximum daily dose. Review use of prn medication: if two or more doses used with good effect within 24 hours, consider continuous subcutaneous infusion. Breathlessness Assess the cause, treat specific conditions if this will aid comfort. Consider nonpharmacological management
(e.g. positioning, facial cooling with a fan, calming presence, relaxation, meeting spiritual needs). If drug management is required: For those already receiving an opioid for breathlessness, switch to subcutaneous route by SC injection or continuous subcutaneous infusion (see Box 7.4.9). If opioid naive, follow advice given for management of pain. Restlessness/agitation Carefully assess the patient for cause/s such as pain, urinary retention, constipation, delirium, and anxiety. Manage specific causes as appropriate, provide reassurance and conducive environment (quiet, well lit, and so on), and company, music, and religious/faith/spiritual support as appropriate for this individual. If drugs are required, consider: For delirium: consider haloperidol-seek specialist advice as necessary. For anxiolysis or sedation: benzodiazepines orally or subcutaneously, for example, oral

diazepam, or midazolam 2.5–5 mg one off SC injection, or 5–10 mg over 24 h by subcutaneous infusion. Nausea and vomiting Assess likely cause and manage appropriately. Noisy, rattling breathing Assess and address the source: salivary, bronchial, or gastric. Infected bronchial secretions are unlikely to respond to antisecretory medication. Exclude fluid overload and review/adjust clinically assisted hydration as necessary. Try re-positioning, and consider gentle suctioning if appropriate and tolerated (nursing staff can advise). Offer explanation and set realistic expectations depending on cause. Noisy breathing can upset friends and family. If is not causing the patient distress or discomfort offer reassurance that it is not harmful. If drugs required, consider subcutaneous infusion of: hyoscine butylbromide 20–60 mg over 24 h or glycopyrronium 400–800 micrograms over 24 h hyoscine hydrobromide is also used but may cause additional drowsiness and paradoxical agitation.

7.4 Care of the dying person 645 this might be a problem. However, conditions that strongly predis- pose to fluid overload, such as heart or renal failure, would usually be contraindications. Careful explanation of the potential bene- fits and harms of parenteral hydration is required. Where there is genuine uncertainty about the value of fluid therapy, and there is strong desire for it, a monitored therapeutic trial is reasonable. Noisy rattling breathing might occur within hours or days of death as the dying person becomes unable to clear secretions by coughing and swallowing. This ‘rattle’ rarely distresses the patient but can be very distressing for others (see guidance in Box 7.4.10) Restlessness is often multifactorial, and careful assessment and explanation is necessary (Box 7.4.10). Be careful to explain and document the specific indications and dose of any sedative drugs. Recent literature reviews do not support the concern that potentially sedative medication, when correctly used to manage symptoms, hastens death. Particularly careful consideration and communi- cation are required on the rare occasions where the intention is to deeply sedate the patient (e.g. to manage intractable seizures), and specialist advice is recommended in these circumstances. Care in different settings. Patients in hospital may wish to be dis- charged to die at home. This requires careful planning, with the family and community services needing as much time as possible to prepare. However, it might be possible to effect this within hours. Involve community nursing teams and the general practitioner, and social services and palliative care team if appropriate, at an early stage. Managing uncertainty. Some patients who appear to be imminently dying do recover. Be vigilant to improvements in the patient’s con- dition, and be prepared to adapt the management plan accordingly. Reassure the family that the patient will be kept under close review. Organ and tissue donation. People with advanced progressive illnesses, including cancer, and dying patients being cared for in an intensive care unit, might be eligible for eye and tissue donation. Discussing a person’s wishes in this regard supports the goals of those wishing to be considered for donation. Donors are assessed on an individual basis, and relevant organ and tissue coordinators will be able to advise. Verification of death Death can be described as the ‘irreversible loss of the capacity for consciousness combined with the irreversible loss of the capacity to breathe’. These conditions are met in both irreversible brain stem failure and following cardiorespiratory arrest. A clinician can only proceed with the diagnosis of death if car- diopulmonary resuscitation (CPR) is unwanted, has failed, or is of no clinical or overall benefit. In the absence of signs pathognomonic of death (hypostasis, rigor mortis) diagnosis following cardiorespiratory arrest requires identification of ‘the simultaneous and irreversible onset of apnoea and unconsciousness in the absence of the circulation’. In practice, cardiorespiratory arrest can be confirmed by palpation of the central pulse, auscultation of the heart and lungs, and obser- vation for respiratory effort over five continuous minutes. Death can be confirmed though

demonstration of absent pupillary response to light, corneal reflexes, and motor response to supraorbital pressure. Any spontaneous transient return of cardiorespiratory effort should prompt a further five minute period of observation. Certification of death Completion of formal documentation describing the cause of a person’s death serves a range of purposes:

1. It allows a legal record of the fact of death to be established; enabling the next of kin to arrange disposal of the deceased’s body and to settle their estate.
2. It provides those close to the deceased with a formal written ex- planation of why their loved one died, which might be psycho- logically important and also relevant to their health and that of their offspring.
3. It provides the mortality data that are vital for public health and a strategic approach to managing healthcare resources. The clinician certifying death should have been involved in the care of the patient during the illness that led to death, and have access to the records necessary to accurately establish the cause of death. The cause of death should be certified according to World Health Organization recommendations. When completing a cause of death, describe a diagnosis or diag- noses concisely but with relevant detail. For instance, provide the histological type and anatomical site of a cancer or the type of dia- betes mellitus. Consider using language family and friends will understand and offering verbal explanation at the time the certifi- cate is provided. If the person collecting the death certificate has not been present during the final illness, the diagnosis may be un- expected and will require sensitive communication. Deaths which might be the result of accident, suicide, violence or industrial disease, occur under other specific circumstances, or for which the cause of death is unknown require referral to a coroner for consideration of further investigation. If it is known prior to death that a patient must be referred to a coroner, the patient and those close to them should be made aware of this. Emphasize that it is not dependent upon the individual clinician’s discretion. This minimizes the shock of referral and prepares the bereaved for potential delays in death certification and burial. Care after death The provision of individualized care for deceased patients and those close to them is a fundamental part of holistic care at the end of life. Dying patients need to be confident that their preferences and beliefs will be adhered to by the teams providing care after their death. Both prebereavement care provided to friends and family while a patient is alive and guidance and support after death are important for promoting successful adaptation to bereavement (Boxes 7.4.11 and 7.4.12). The recently bereaved might be unable to process or retain infor- mation and will need clear, and possibly repeated, guidance about complex or unfamiliar processes. Information should be provided orally and in writing. Social, cultural, and religious considerations Personal, religious, or cultural practices relevant to care after death should be established and planned for prior to death. Clinicians

 should have working knowledge of the requirements of the main faith and cultural groups in their locality and know how to access guidance. It is dangerous to assume that a patient has specific beliefs on the basis of sociocultural heritage. They might not be adherent to the tenets of the dominant, or indeed any, faith. Some religions re- quire burial within 24 hours of death, and rapid repatriation might be planned. Preparations should be made for this (Box 7.4.13). Uncertainty, controversy, and future developments The recognition and care of dying patients remains the focus of controversy and subject to considerable societal scrutiny. Concerns

have been raised about the quality of communication with patients and families, the rigour of clinical decision-making, premature discontinuation of treatment, the use of care pathways, the need for individualized care, and the potential side effects of medication used for symptom management. There is a recognized need to improve the evidence base under- pinning care for dying patients with a focus on high-quality research addressing significant areas of uncertainty including prognostication, symptom management, training for professionals and informal carers, and the organization of care and services. A robust research agenda is essential to ensure that the needs of all patients in the last days of life are met irrespective of diag- nosis, care setting, and the hour and the day that care is required. This will impact upon the experience of the dying person and more enduringly those who survive them. In the words of Dame Cicely Saunders, founder of the modern hospice movement: 'How people die remains in the memory of those who live on.'

FURTHER READING Academy of Royal Medical Colleges (2008). A Code of Practice for Diagnosis and Confirmation of Death. http://www.aomrc.org.uk/ publications/reports-guidance/ukdec-reports-and-guidance/ code-practice-diagnosis-confirmation-death/ Beller EM, et al. (2015). Palliative pharmacological sedation for ter- minally ill adults. Cochrane Database Syst Rev, 1, CD010206. Downing M, et al. (2007). Meta-analysis of survival prediction with Palliative Performance Scale. J Palliat Care, 23, 245–54. General Medical Council (2010). Treatment and Care Towards the End of Life: Good Practice in Decision Making. https://www.gmc-uk.org/guidance/ethical_guidance/end_of_life_care.asp Glare PA, Sinclair CT (2008). Palliative medicine review: prognosti- cation. J Palliat Med, 11, 84–103. Good P, et al. (2014). Medically assisted hydration for adult palliative care patients. Cochrane Database Syst Rev, 4, CD006273. Hung CY, et al. (2014). Magnitude of score change for the palliative prognostic index for survival prediction in patients with poor prognostic terminal cancer. Support Care Cancer, 22, 2725–31. Knauft E, et al. (2005). Barriers and facilitators to end-of-life commu- nication for patients with COPD. Chest, 127, 2188–96. Lau F, et al. (2007). A systematic review of prognostic tools for estimating survival time in palliative care. J Palliat Care, 23, 93–111. Leadership Alliance for Care of Dying People (2014). One chance to get it right. UK Government Publications Gateway, Reference 01509. National Institute of Health and Care Excellence (2015). Care of Dying Adults in the Last Days of Life. NICE guideline [NG31]. https://www.nice.org.uk/guidance/ng31?unlid=373313648201622816385 4 Parker SM, et al. (2007). A systematic review of prognostic/end- of-life communication with adults in the advanced stages of a life-limiting illness: patient/caregiver preferences for the con- tent, style, and timing of information. J Pain Symptom Manage, 34, 81–93. Su J, et al. (2015). Do repeated assessments of performance status im- prove predictions for risk of death among patients with cancer? A population-based cohort study. Palliat Med, 29, 547–53. Wilson F, Gott M, Ingleton C (2013). Perceived risks around choice and decision making at end of life: a literature review. Palliat Med, 27, 38–53. World Health Organization (1979). Medical certification of cause of death, 4th edition. World Health Organization, Geneva. Wright AA, et al. (2008). Association between end-of-life discussions patient mental health, medical care near death and caregiver be- reavement adjustment. J Am Med Assoc, 14, 1665–73. Box 7.4.12 Care needs in the weeks after death • A personalized letter of condolence from the team involved in care of the dying person • An opportunity to discuss unresolved questions or concerns with a senior clinician • Information about bereavement support, counselling, and psycho- logical care • Consider need for a formal assessment of bereavement needs Box 7.4.13 Preparation for patients requiring rapid burial • Ensure access to death certificates around the clock • Ensure clinicians on duty are able to complete the necessary docu- mentation (e.g. they have seen a patient prior to death and can state the cause of death) •

Establish details of the burial contacts/societies within local faith/ cultural groups Box 7.4.11 Care needs in the hours to days after death • Sensitively timed verification, confirmation, and certification of death • Sensitive communication that the patient has died • An opportunity for the bereaved to ask questions about events leading to death • Sensitive communication about bodily changes and care processes after death • Opportunities for the bereaved to spend time alone with the de- ceased person, to participate in personal care, and view the de- ceased after transfer to a mortuary • Personal care within 2–4 hours including positioning, washing, mouth and wound care, dressing, and handling of valuable property • Explanation of procedures for collection of a death certificate, regis- tration of death, and other processes • Information about bereavement support

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